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ABSTRACT OF THE ADDRESS ON PUBLIC HYGIENE

DELIVERED BEFORE THE INTERNATIONAL MEDICAL CONGRESS AT PHILADELPHIA, SEPTEMBER 5, 1876.

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As a measure of vital importance to the well-being of any community, and, as such, worthy to be cheerfully and amply sustained by great cities and states, public hygiene, as we now understand that term, has till within a very short time been wofully neglected, save when, under the stimulus of some great and terrible epidemic, frantic, perhaps, but temporary efforts have been made to stay the plague by hygienic or other means. Of late, however, a new and better era seems opening to our view, and State Preventive Medicine affords us higher hopes for all coming time. To this last, this noblest phase of public hygiene, its very late appearance in this century, its gradual evolution out of the dogmatism and skepticism of the past, its present status, our duties relative thereto, and our golden hopes for the future, I crave your candid consideration during the brief hour I shall have the honor of addressing you. If, at the termination of my remarks, our foreign associates feel that I have given them but little information, and my countrymen find that I have said but little in praise of my country, one and all of you, I trust, will generously allow me the credit of having endeavored at least to speak the exact truth.

The past century in this country easily divides itself into three unequal epochs: first, from 1776 to 1832, the era of theory and dogmatism; second, from 1832 to 1869, or that of strict observation and of bold and often reckless skepticism; third, from 1869 to 1876, which is destined to continue and progress while the nation itself lives, the noblest and most beneficent of all, in which the state joins with the medical profession and the laity with the object of preventing disease.

The first epoch was that of medical system-making, was filled with an overweening confidence in our art, with little or no faith in the *vis medicatrix naturæ*. The influences which governed the opinions of medical men, and through them the world, in all that relates to sanitary matters during this period and the previous century, may be briefly

sketched as follows: The illustrious Boerhaave began to enunciate his doctrines of disease at Leyden, in 1701. With him all disease was in the fluids of the system. His doctrines held sway in America until about 1765. Following closely after him came Hoffman, Cullen, Brown, Darwin, each with his own peculiar system. Our ingenious and renowned countryman, Benjamin Rush, proclaimed his own ideas in 1790, namely, that a convulsive motion of the arteries is the proximate cause of all fever, and that there is but one fever, however different the causes may be. He was one of the most noteworthy men this century has produced, and has been called by one of his admirers the American Sydenham. During the twenty-three years of his professorship, after having been medical director of the middle department of the continental army, he energetically and ably defended his system, as he had previously upheld Cullen's. Like his predecessor he was essentially a medical system-maker. He believed fully in heroic measures and rather scoffed at nature.

But Rush's theories and dogmatism were destined to fall under the influence of the fascinating theories of Broussais, which spread widely in America, but less so in New England, which had been trained more to close observation under the great masters in medicine, Dr. Holyoke, Dr. James Jackson, and others, than in other parts of the country. In or about 1832 his system began to fall in America, as it had been previously falling in Europe. With him our first epoch terminates. The whole tenor of it was not suited to the growth of anything like what we understand by state preventive medicine.

The second epoch, or that of observation and accurate recording of facts, and subsequent analysis of them, with an extreme confidence in nature's power of curing disease, a corresponding skepticism in regard to the use of drugs, and finally dim presages of preventive medicine, presents characteristics precisely the reverse of the first. Louis and his numerical method stand prominent in it. The epoch in America began when Dr. Gerhard, of Philadelphia, and James Jackson, of Boston, returned to these two cities and commenced their honorable careers, full of the new ideas, and enthusiastic defenders and expounders of them. Their influence extended gradually over the whole country. Louis's doctrines, though vehemently opposed by some who had grown old under the previous epoch, were received by most young men with joy. Philosophical minds among the elder ones were charmed with the accuracy observable in Louis's numerical method, under the direct or indirect influence of which — the guiding influence of the present time, as Dr. Guy considers it — an immense number of independent observers and workers have been educated in this country and in Europe.

In addition to the specific disciples of Louis, there were three others, all men of great influence, who by their writings were powerful leaders

in this epoch. I allude to Jacob Bigelow and Elisha Bartlett of America, and John Forbes of England. All but one of this trio are dead. Dr. Bigelow entered his eighty-ninth year last February. His life nearly spans the century, and closely unites the first and second epochs. After a most honorable and successful life as a physician and professor of the Harvard Medical School, he has been for years totally blind, and hopelessly unable to move from his bed for more than eighteen months. His influence upon this second epoch was diametrically opposed to Rush's during the first. He fully sustained the principles and methods advocated by Louis. By his writings and teachings he had immense influence over New England; directly and indirectly over the medical community of the whole country. While Bigelow was thus sapping all faith in polypharmacy, Dr. John Forbes published in the chief medical journal of that day one of the boldest avowals of the same creed, which has stood the test of time as one of the noblest protests against the drugging of the day, and an eloquent defense of the power of nature in curing disease. Polypharmacy then and there received its most deadly blow; and such a blow was needed before state preventive medicine could become possible. Dr. Elisha Bartlett was one of the most philosophical medical men America has produced during the century, and his heart was devoted to medical reform. Though not educated under Louis, he thoroughly appreciated his methods and his writings, and proclaimed them as the dawn of a new and great era in the history of medicine. From the many chairs which he occupied as professor in different colleges, he was able to influence North, South, East, and West of our country.

Thus closes the list of men whom I deem most prominent in carrying forward the ideas underlying this second epoch. They are at least eminent illustrations of the evolution of the medical thought of that time. Their mission was chiefly destructive, or constructive only in some degree. The general tendency of their writings, so far as they bore upon medical practice, was to utter skepticism, not only in regard to the manifest absurdities of our fathers, but likewise in reference to the good things suggested by them. Although they sometimes, as we have seen, hinted at prevention of disease, they did not dream of the union of the profession with the laity in urging the noble idea of state preventive medicine in its widest scope. Their skepticism, like all skepticism, was chiefly iconoclastic; we need faith in an idea before we can build it up in actual life. Such a faith we shall see breaking out in our third and last epoch, and to this I now call your attention. But first, let me say what I deem strictly true, and what I will sustain from my own professional experience of nearly half a century, that the medical profession as a body has hitherto taken very little interest in the ideas underlying state preventive medicine, and that we owe to the laity, rather than to the profession, the first and strongest efforts in its behalf.

The ruling idea of the third epoch, or that in which the medical profession is aided by the laity and the idea of state preventive medicine fairly inaugurated, as marked by the legal establishment of the first state board of health, is still in its infancy; but it shows by what it has already accomplished, trivial though that performance may seem at first glance to be, its inherently great nascent power. Its objects are vastly wider than those of any preceding epoch. Its destiny is as fixed as that of the steam-engine, the telegraph wire, the locomotive, or the use of anæsthesia. I cannot foresee a time when the ideas underlying this epoch will not be held in esteem and acted upon for the benefit of mankind. Among the men who stand prominent in their relations to it are two laymen. One of them, I fear, may be but little known to most of my hearers, or even to the people of his native State. I allude to Lemuel Shattuck, Esq., of Boston. The other is Edwin Chadwick, a barrister of London, for many years known and honored by every civilized nation as one of the ablest and most earnest of sanitarians. Mr. Shattuck in 1850 presented to the legislature of Massachusetts a most exhaustive state paper, entitled Report of the Sanitary Commission of Massachusetts, in which are laid down all the principal ideas and modes of action which underlie the present sanitary movements in that State, and, I think I may also add, in America.

We have been largely influenced too by the example of Europe, especially by Parent du Chatelet, Quetelet, Pettenkofer, and Virchow, great in every department of science or of state upon which he enters; and more still by England, who has far outstripped the other countries of the world by her unbounded pecuniary sacrifices and steady improvement in legislation for the improvement of the public health. I think I may say with perfect truth that the keenness of investigating power which has been applied to the discovery, removal, and prevention of whatever may be prejudicial to the public health, as brought out under the admirable direction of Mr. Simon, by his corps of trained inspectors, is wholly unequaled, and unprecedented, I suspect, in all past time.

The number of single laborers in the field is constantly augmenting; and in this connection should be mentioned the reports of our boards of health, the publications of the United States government, the library and museum in the Surgeon-General's department in Washington, the experience of our war, dreadful as it was, and the Sanitary and Christian commissions and associations of the North and South, through which money and food were distributed without stint for the sick and wounded, and by which the desire to save life and promote health was instilled into the minds and hearts of our people from Maine to Texas.

The four National Quarantine Conventions, checked by the war, contributed very much to lead the public mind to the ideas prevalent at the present time, and their real successor, the American Public

Health Association, has carried on the work. Of strictly professional institutions, the American Medical Association has from its organization in 1847, and especially of late, attempted to awaken an interest in public hygiene, through some of its members. It must be confessed, however, that, judging from the small numbers attending the section in hygiene, that subject seems to afford less interest than any other.

Finally, I may assert that during the past three or four years there has sprung up among the entire community a wide-spread thoughtfulness about the necessity and value of hygienic measures. In every State are there active and earnest laborers in this matter, and their number is daily increasing. It would be impossible, on this occasion, to name even a tithe of them. Some States, in their corporate capacity, have sustained these workers for the public good. But I regret to say that a large majority of the States and Territories of this Union are not sufficiently enlightened to appreciate the duty devolving on them to be careful of the health of their people.

I will now pass to a consideration of the present condition of state preventive medicine in the various States and Territories. Several months ago I sent circular letters of inquiry to two hundred and sixty-seven leading medical men known or supposed to be interested in public hygiene, representative men, in fact, residing in thirty-eight States, nine Territories, and the District of Columbia, which embrace an area of 3,603,884 square miles, and cover twenty-five degrees of latitude and fifty-seven of longitude, in the south lying almost in the tropics and at the north reaching close to the coldest inhabited portion of the globe. Replies have come from one hundred and sixty-seven, and are from every State and Territory except the Indian Territory, a reservation inhabited by Indians in various conditions from barbarism up to a low civilization.

An analysis of these replies gives the following results. First question: Does your State by its legislation show a due appreciation of the duty devolving upon a State to be careful of the health of its people?

The answers were as follows: thirty-four governments, no;[1] eight, yes;[1] four, indefinite;[2] two, no reply to this question.

Among the States which have failed to show this due appreciation of their duty are the great ones of New York and Pennsylvania, which have been the chief since colonial times and still hold that proud position. But let us who have traced the gradual evolution of the idea of state preventive medicine during the past century not wonder at this apparent neglect of public hygiene shown by the various States. Let us rather rejoice at even the small awakening of the public intellect and conscience on these matters evinced of late wherever a European civilization has any foothold.

[1] That is, correspondents unanimous.

[2] That is, correspondents not unanimous.

Second question: Is the State willing to expend money —

(*a.*) To support state or local boards of health?

(*b.*) To carry out scientific investigations as to the causes of disease?

(*c.*) To repress noxious or offensive trades?

(*d.*) To prevent adulteration of food?

(*e.*) To prevent the cattle diseases?

(*f.*) To carry on any other investigations tending to public health or to improve ill health?

The touchstone which tests the earnestness of an individual or a nation in reference to any subject is a willingness to spend money in furtherance of it. Tested by this talisman, how stands our country? Let us look at the various specifications.

To *a* the following answers were received: thirty-six, no; ten, yes; two, no reply.

Now I contend that the legal establishment of a state board of health is the very first step toward any definite sanitary organization of a State, and the replies show what very small advances have yet been made in this country. In those States, too, which have appropriated money, the sum is small in proportion to the objects aimed at.

To *b* the answers were as follows: thirty, no; twelve, yes; five, indefinite; one, no reply. The twelve replying affirmatively are Arizona, California, Colorado, District of Columbia, Georgia, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Rhode Island, and Wisconsin.

To *c* the following replies were made: twenty-six, no; fourteen, yes; seven, indefinite; one, no reply.

To *d* the answers are: twenty-three, no; sixteen, yes; seven, indefinite; two, no reply.

When public hygiene is duly thought of and state preventive medicine has full sway, the adulteration of the food of the people will be deemed one of the most heinous of crimes. Practically, it is allowed now to flourish unrestricted in the majority of the States, even in those which have laws to prevent it. Europe undoubtedly is far ahead of America in this respect.

To *e* the following replies were received: twenty-one, no; ten, yes; sixteen, indefinite; one, no reply.

To *f* the answers are these: twenty-eight, no; ten, yes; nine, indefinite; one, no reply. That is, more than one half of our States and Territories seem unwilling, and less than a quarter claim a willingness to do so. This seems a most natural sequence to all preceding answers.

Third question: Has your State established a state board of health?

(*a.*) If so, when was it established?

(*b.*) What amount of annual appropriation is made for its support?

(*c.*) Are any occasional or extra grants made for special investigations?

(*d.*) Has the board any organized body of correspondents or inspectors throughout the State?

(*e.*) What executive powers have been given to the board with reference to local nuisances or noxious trades?

Twelve have appointed state boards of health, namely, Alabama, California, District of Columbia, Colorado, Georgia, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Virginia, and Wisconsin. The sums appropriated for them are small, although for special purposes Louisiana and the District of Columbia have spent large sums. Not a single one of them has yet a *perfect* list of correspondents or inspectors.

Fourth question: Have county boards of health been established by law?

The answers are: thirty-three, no; four, yes; seven, indefinite; four, no reply.

Fifth question: Have any town boards of health been established by law?

The answers are: eight, no; fourteen, yes; twenty-two, yes, that is, by local and not state laws; one, indefinite; three, no reply.

Sixth question: Has the State passed any law leading to a thorough and definite improvement of the public health?

(*a.*) By a sanitary survey of the State.

(*b.*) By a law for the registration of births, marriages, and deaths.

(*c.*) If so, how long has it been in operation?

(*d.*) Has the registrar been able to draw from such records any law governing the public health?

(*e.*) Has any law been passed relating to the drainage of land?

(*f.*) Has any law been passed relating to the irrigation of land?

(*g.*) Has any law been passed checking the influence of rivers by levees?

(*h.*) Has any law been passed relating to the introduction of water into cities?

(*i.*) Has any law been passed relating to the prevention of contagious diseases, for example, small-pox, cholera, yellow fever, cattle disease, etc.?

(*j.*) Has any law been passed regulating tenement houses for the poor?

(*k.*) Has any law been passed relative to incorporating building companies for the improvement of the dwellings of the poor?

It is impossible to consider on this occasion all of these points, but I will select those which best illustrate my subject.

(*a.*) As to sanitary surveys the answers are: forty, no; none, yes; one, indefinite; seven, no reply.

(*b.*) As to registration laws the replies are as follows: sixteen, no; twenty, yes; eight, indefinite; four, no reply.

Eighteen out of the twenty answering affirmatively give also some qualifying expression as regards the character or the enforcement of the law; for example, "imperfect," "not carried out," "defective," "carried out only for certain great cities," "dead letter" in one, etc. No one can regret more than I do the necessity of stating these facts. May the sting of its severe truth stimulate us and our children to better works in the coming centuries!

During the last ten or twenty years state registrations have been carried out in a few States, although some of the larger cities have had imperfect returns for a much longer period and Massachusetts began in 1842. The United States government has had decennial censuses since 1790. In order to judge of their value in certain respects, we have simply to look at the strictures made on them by the superintendent of the last.

(*e.*) As to drainage of land the answers are: twenty-four, no; seven, yes; six, indefinite; eleven, no reply.

Only one seventh report affirmatively, but I do not understand that in any case such drainage was made for sanitary objects, but rather to improve the land for agricultural purposes. In Illinois twenty thousand acres of land, comprising at least half of three counties, were drained by the State for agricultural purposes, but with the most gratifying results upon the health and characters of the settlers thereupon.

(*f.*) As to irrigation of land, the replies are: thirty-one, no; five, yes; five, indefinite; seven, no reply.

All the affirmative replies except one, Utah, state that it was done for agricultural purposes. Not one thought of health in connection with it. Even Utah probably thought more of its actual necessities than of sanitary improvement.

(*g.*) As to improvement by levees the answers are: twenty-eight, no; four, yes; five, indefinite; eleven, no reply.

Correspondents from Arkansas state that some levees have been made for agricultural purposes, and one adds significantly, "but it [that is, the levee] has improved the health of those living near the place."

(*h.*) As to water supplies, the States and Territories stand thus: twenty-three, no; fourteen, yes; four, indefinite; seven, no reply.

Indiana and Pennsylvania have general laws on the subject. Probably all the States have permitted either by general or by special statute this introduction of water.

As to prevention of small-pox, the replies are: sixteen, no; twenty-one, yes; seven, indefinite; four, no reply.

As to prevention of cholera, the answers are: twenty-one, no; sixteen, yes; four, indefinite; seven, no reply.

Entirely similar reports come in regard to this disease as in regard to small-pox. All indicate a *laissez aller* method. The United States

government, through the War Department, has published a most invaluable history of cholera in this country, by which alone we can judge what would be the immense value of a central national health council, to undertake such investigations and adopt preventive measures before it becomes too late.

As to laws for prevention of yellow fever, the replies are: twenty, no; twelve, yes; ten, indefinite; six, no reply.

There seems to be a difference of opinion among my correspondents as to whether this disease is endemic or not in some of the Southern States, from which it seems fair to infer that it virtually has a permanent habitat there; but for an accurate and minute knowledge of the essential cause of yellow fever and of the means for its prevention we must look to the coming century. It has virtually disappeared from Boston, New York, and Philadelphia. May we not hope that there may be a gradual but effectual pushing back of this frightful disease until it be fairly excluded from our borders?

As to laws for prevention of the diseases of cattle, the answers are: twenty, no; eleven, yes; five, indefinite; twelve, no reply.

Much money has been expended by Massachusetts and some of the Western States in stamping out cattle diseases. I may refer here, too, as of great value in this connection, to the convention of cattle dealers of the Northern States and Canada, to the Report of the Metropolitan Board of Health of New York, to the action of the legislature of Massachusetts, and finally to the admirable Report of the United States Commissioner of Agriculture in 1871, containing papers by Professor Gamgee and Drs. Billings and Woodward.

(*j.*) As to laws regulating tenement houses for the poor, the replies are: thirty-three, no; four, yes; three, indefinite; eight, no reply.

(*k.*) As to laws incorporating building companies, etc., we stand: twenty-nine, no; six, yes; three, indefinite; ten, no reply.

These two nearly-allied subjects, as we have seen, have received equally little attention. I know of none more important at the present time. The fact is patent to every one that there are in every city and township in this land dwelling-places in which the poor are obliged to live which are a disgrace to modern civilization, where, in fact, it is almost impossible for the dwellers in them to grow up except to filth and crime.

Seventh question: (*a.*) Are there any well-attested facts proving that any disease formerly prevalent in your State has ceased to appear?

The replies are: twenty-five, no; nine, yes; eight, indefinite; six, no reply. Of the affirmative replies, not one presents positive proof of the statement, but some suggest a lessening of some diseases. This seems to be undoubtedly the fact in regard to malarial fevers and yellow fever.

(*b.*) Are there any well-attested facts proving that any disease formerly prevalent in the State has been eradicated by state or individual action.

The replies are: thirty-seven, no; none, yes; four, indefinite; seven, no reply. Eighth question: Are there any similar facts proving that any special disease has arisen or been generated, or been introduced into the State during the past century, which did not exist in colonial times and which now remains endemic?

The replies are as follows: twenty-seven, no; six, yes; two, indefinite; thirteen, no reply.

In all the affirmative replies opinions and not facts are given, so that I feel that there is no proof that any new disease has been introduced and become endemic here.

Ninth question: If there be any such new disease, has it been investigated by the State or by individuals?

The replies are: twenty-seven, no; six, yes; two, indefinite; thirteen, no reply. Tenth question: Has the town or city in which you reside taken any measures for the improvement of the public health?

The replies are (*a.*), by health laws: nine, no; twenty-five, yes; nine, indefinite; five, no reply. (*b.*) By special action in specific cases, three, no; twenty-five, yes; eleven, indefinite; nine, no reply.

Eleventh question: Does your town use well-water for culinary purposes?

Twelfth question: Is care taken to prevent pollution?

Thirteenth question: Do you have a water-supply from a distant lake or river?

Fourteenth question: Is care taken to prevent pollution?

For obvious reasons I include all these under one category. Of one one hundred and forty-three towns, eighty-two use wells; sixty-one use rivers or lakes; forty-nine try to keep the water-supply pure; sixty-nine make no attempt to do it; and twenty-five make indefinite replies.

Fifteenth question: Have you sewers to carry off such water-supply?

The replies are: eleven, no; thirteen, yes; twenty, indefinite; four, no reply. These replies intimate very fully the primitive ideas held by the people of this country as to the necessity of carrying off water once made impure. The consequence has been the overflowing of cesspools, with the accompanying soil-pollution and soil-dampening. Of course evil is the result.

Sixteenth question: How far are the sewer-outlets from the source of water-supply?

Upon this question it may be stated that the distances vary from what is practically zero to twenty or thirty miles, and the replies of correspondents often indicate that there has been great neglect on this point.

Seventeenth question: What is your method of disposing of sewage, — house offal, — slops, or filth liable to accumulate about homesteads?

In this respect, too, there is generally in our country gross neglect.

Eighteenth question: Have any state, county, or city reports of health, or deaths, etc., been published?

From the replies of the States I learn that more than three fourths of them have virtually ignored vital statistics during the whole century.

Nineteenth question: How many years approximately or definitely have these registration reports been published?

Owing to imperfect returns, it is impossible to give accurate statements as to this question.

Twentieth question: Has any law of development or of partial development of any disease been discovered by individual or state action, by attention to which in coming centuries we may hope to greatly lessen or destroy disease?

I proposed this question of fact, as the test-question, so to speak, of the centennial period. The replies are: thirty-nine, no; six, yes; one, indefinite; three, no reply.

The affirmative replies, upon further analysis, refer more to the general increase in our knowledge of disease than to any special discovery of a general law like that ascertained in Massachusetts, through the members of the medical society of that State, of the relation of soil-moisture to pulmonary consumption.

Gentlemen, my task is over. I have endeavored to place before you the exact truth in these matters, although no one can feel more keenly than I do that it has been at times most unpalatable. It may seem little creditable to the country. Nevertheless, I have the brightest hopes for the future in this regard. We could not, with the influences hitherto pressing on us, have advanced farther.

We stand now at the very dawn of the grandest epoch yet seen in the progress of medicine. While philosophically, accurately, and with the most minute skill studying, by means of physiology, pathology, chemistry, the microscope, and, above all, by careful clinical observation, the natural history of diseases and the effects of remedies, our art now looks higher still, namely, to the prevention as well as to the cure of disease. And this is to be done by sanitary organization through each state and nation, the laity and the medical profession heartily joining hands in this most noble cause.

Can there be anything more inspiring to intellect or heart than the thought that by laborious research into the causes of disease and the means for its prevention we may contribute our part towards the saving to health and happiness of even a few of the more than two hundred thousand human beings now annually slaughtered in this country by preventable disease?

Standing, as we do, nearly at the close of this centennial birth-year, now at length united into one nation by the close bond of liberty for all the inhabitants thereof, I appeal to young and old alike, to every Amer-

ican and to every collaborating brother of a noble profession now gathered here from foreign lands, to every one within sound of my voice, to join with me in a cordial "All Hail!" to the coming centuries, not only in America but in every civilized spot of God's earth, because everywhere, to all coming time, human life will be lengthened, made more healthy, and consequently more truly happy, by the potent influences of state preventive medicine.

ABSTRACT OF THE ADDRESS ON MEDICINE

DELIVERED BEFORE THE INTERNATIONAL MEDICAL CONGRESS AT PHILADELPHIA.

BY PROF. AUSTIN FLINT.

DR. FLINT recalled to the minds of his audience that one hundred years ago there were two embryonic medical schools in America, one in Philadelphia and one in New York. A few years later we were separated from the mother country by Cæsarean section, and plunged into war. This war called out the medical energies of the colonies, but arrested medical teaching for some years. The leading medical minds were then principally in Philadelphia, New York, and Boston. After the war, Franklin interested himself in founding the Philadelphia Medical College, the meetings of the founders being held at his house until within two months of his death. In 1791 this school was merged into the medical department of the University of Pennsylvania. This latter school was modeled after the school of Edinburgh, and that after the Leyden school. All the professors of the Philadelphia school had been educated in Edinburgh. Rush was then the leading American medical mind. He wrote original treatises and edited foreign works, especially Cullen's work, which was widely read. This shows the activity of medicine at this period. The war, the great need of medical men, and the return of the many who had studied abroad, all combined to force the growth of medicine in America.

Philadelphia inaugurated medical teaching in this country. She was then and is now the great medical centre, and still has no compeer, in literature, teaching, or physicians. She has had a great influence on other cities of the Union. If this influence ceases in the future it will not be because she has weakened, but because of the emulation awakened by her example. It is fitting, then, that the congress should meet here.

At the end of the first quarter of the nineteenth century there were twenty medical schools and two thousand students in the United States. Six of these schools were metropolitan, in Philadelphia, New York, and Boston; fourteen of them were provincial. The latter met the needs of students unable to bear the expense of city tuition. They developed inquiry among physicians in their neighborhood and incited them to

become teachers. Thus their influence was good. There was great jealousy among schools at this time. The first two graduates from Harvard met great opposition, and received their diplomas only through the influence of Dr. John Warren.

At this period there were twenty medical journals. Even now their number is only doubled. Locally they are generally in the interest of some particular school, but they are useful in distributing medical intelligence, and journals relatively obscure have been the media of publication of papers of great value.

It may be said of the profession in America that they have ever been fraternal. May we not claim for medicine that it has raised physicians above the influence of politics? Even the late war did not disturb the strong feeling of friendship between Northern and Southern medical men.

Referring to important agencies in the growth of medicine, Dr. Flint mentioned Cullen as the strongest pathologist at the close of the last century. Following him came Rush, then Good, each having an original system; then Brown, of Edinburgh, the opponent of Cullen. There was at this time no leading system. Rush, Cullen, and Good were the predominant minds, but neither was followed exclusively. In 1801 Valentine Seaman, of New York, began vaccination. In 1817 the Pharmacopœia was projected, and it was published in 1820. In 1846 anæsthetics were first used in Boston, and afterwards introduced into England and the Continent.

Dr. Flint then referred to the many foreign books translated and edited by Americans which have aided medicine in America. In 1829 the first native work on pathological anatomy was published by Horner, and later Gross's work appeared. They were the pioneers. J. B. S. Jackson unfortunately, if not blamably, became satisfied with his position as professor in a leading school and curator of a museum rich in specimens. He might have been more permanently identified with pathology in this and in every other country.

Dr. Flint next referred to auscultation, making honorable mention of James Jackson in connection with the discovery of the significance of prolonged expiration; also mentioning Dr. Holmes as having taken the Boylston prize for an essay on auscultation.

In the diagnosis of heart diseases American physicians were aided by the works of Hope, André, Stokes, and others. Bowditch and Gerhard also made us familiar with this science. Referring to Bright's clinical reports, Dr. Flint said that Bright could not have anticipated the advance in the diagnosis of renal disease to which we have attained in the present quarter of the century.

In the second quarter of the nineteenth century Hayes's *American Journal of the Medical Sciences* first appeared, promising translations of

all important foreign medical intelligence, and valuable original articles. It has kept and still keeps the promise, and is the oldest medical publication in this country, having also the largest circulation of any similar publication in the world.' Dr. Flint then made flattering mention of the earnest and prolonged experiments of Beaumont upon St. Martin.

Broussais's works, translated by Hays and Griffiths, won many disciples to Broussaisism. This was the last of the legitimate '*isms*, and has given way to illegitimate '*pathies*. Dr. Flint next mentioned the work of Cook, who believed congestion of the liver to be the *fons et origo* of all disease. Alluding to the Kentucky practice of giving huge doses of calomel in affections of the liver, the speaker told the story of a yeoman, who, while plowing his field, came upon a quantity of metallic mercury and supposed he had struck a mine of wealth, but became quite chop-fallen when told that he had simply plowed up the spot formerly used as the burial-place of patients who had been subjected to mercurial treatment.

The powerful influence and the present worth of the works of Louis and his new departure in methods of study were mentioned.

Jacob Bigelow in 1835 struck the key-note of change in the treatment of disease in his work on Self-Limiting Diseases. Polypharmacy and heroic measures fell into disrepute. Physicians became more reserved and humbly changed to servants of nature. In 1833 appeared the United States Dispensatory of Wood and Bache. In 1847 the American Medical Association was inaugurated for the protection of the profession and for the advancement of knowledge. Allusion was made to the valuable paper of Nathan Smith on typhus. At this time the non-identity of eruptive fevers was accepted as a fact.

In 1846 Meredith Clymer was the first to discover and describe relapsing fever. Dickson and Drake announced their belief in the conjoined action of different morbid influences at the same time in the same person. John Ware inaugurated the numerical method in the use of opium. The large use of opium in peritonitis was referred to as the American method of treatment of this disease. Bowditch in this quarter of the century invented the operation of paracentesis thoracis, and although we now say aspiration in place of suction, using complicated foreign instruments in this procedure, the operation in its origin is American.

Dr. Flint then read the long list of American authors who wrote during the fourscore years following the Declaration of Independence, and asked, "Was not the advance of literature in this country in less than eighty years remarkable?"

Coming down to the last quarter of the century the speaker alluded to some of the characteristics of progress in medical science in America, the advance in histology and pathology, the use of the microscope (refer-

ring here to the brilliant paper on the microscope of Burnett in 1851), the great influence of German medical literature in the direction of pathology, the fondness of Americans for foreign schools, and the unwise prejudice of some persons against this inclination to study in European schools. We should be humble in our relations with the schools of Europe, yet no student from abroad, who has remained the mere satellite of his foreign master, has ever attained distinction.

Reference was then made to the injustice of the non-existence of a copyright law. Republication of French works in translation has become unnecessary because of the present general knowledge of the original. A similar knowledge of the German language it is hoped will soon be as general.

Our literature has been fairly treated and well received abroad. Our works are practical in character because we are young. The leading characteristic of our medical schools is practicality. The responsibility for the character of our profession rests upon the teachers in our schools. The public is practically unprotected by law against practitioners who have no diplomas. We have large schools. They are an indication of progress. Let us try to correct defects, let us improve our methods of teaching, but avoid wholesale condemnation of what has been done. Of our code of ethics Dr. Flint asked what it is and what it does. It has remained unaltered during the past twenty-five years. This reflects honor on the profession. We may claim that the majority of physicians have been honorable. In no other country is the dividing line between illegitimate and legitimate practitioners more sharply drawn than in ours, because in no other country do medical men occupy so high a social grade.

The history of American medicine contains much of which we may be proud. Need we doubt that the spirit thus far shown will lead to a glorious destiny?

RECENT PROGRESS IN ANATOMY.[1]

BY THOMAS DWIGHT, M. D.

Connective Tissue.[2] — Professor Flemming, of Prague, has added a long and valuable communication to the already rich literature of this subject. He has devoted himself especially to loose connective tissue as it is found under the skin and in the interspaces between muscles, and to fat cells. Connective tissue is generally held to consist of fibres and cells. The latter are of various kinds, and in certain places are ranged around bundles of fibres in a way to form more or less perfect sheaths. Professor Flemming adds another element which indeed has

[1] Concluded from page 292.

[2] Archiv für mikroskopische Anatomie, Band xii., Heft 3, 1876.

been admitted already but hardly appreciated. This is the *Kittsubstanz* of the Germans, which is perhaps best translated as *intercellular substance*. It is probably very nearly fluid during life, and contains mucine, which accounts for its coagulation when treated with an acid. Much has been said of the laminar nature of connective tissue, but, without denying that frequently it has a tendency to split in one direction rather than in another, Flemming would compare it to a sponge rather than to a series of layers. Interstitial connective tissue, according to him, consists of a very irregular frame-work bounding splits and cavities which normally are very small but which can readily be distended by fluid or air. The walls of these spaces are covered by a cellular layer formed of cells and intercellular substance, if these terms may be used to describe a layer of cells without borders. Nuclei are seen, and not much else. Flemming holds that the intercellular substance extends also in among the fibres that constitute the frame-work. These are chiefly connective-tissue fibres, but among them are occasional elastic ones. He spends considerable time in discussing the causes of certain peculiar appearances of bundles of fibres that have swollen after the application of an acid. The swelling is not uniform; the bundles present curious constrictions and bulgings which it can often be seen are due to spiral fibres surrounding the bundles. These are of two kinds; the smaller ones, which can be stained with carmine or hæmatoxyline, and are the most common, are formed by coagulated kittsubstanz, while coarser ones, which cannot be stained, are true elastic fibres. It should be noticed that in this kind of connective tissue Flemming does not find any endothelial lining to the cavities which one feels forced to look upon as lymph spaces. Neither does he speak of branched cells lying in free spaces, though such can be demonstrated on strips of subcutaneous tissue taken from the shoulder of a rabbit and treated with silver nitrate to stain the ground substance (or probably the kittsubstanz) and hæmatoxyline to stain the cells. The existence of such cells, however, though not included in Flemming's plan, is not inconsistent with it.

Some of the author's more important conclusions concerning fat are the following. Deposits of fat show the same general structure as loose connective tissue, namely, fibres, intercellular tissue, and cells. The last are not of a distinct class, but simply cells covering the bundles of fibres that happen to be full of fat. Often, of course, no definite boundary of the fatty deposit can be made out. Flemming could find no lymphatics that appeared to take origin in the fatty tissue, though they were seen passing through it. Growth of fat depends on the filling with fat of connective-tissue cells that had previously been free from it, and on the subdivision of cells that were already full. He thinks it possible that wandering cells also may become filled with fat, but does

not consider it proved. In emaciation the fat disappears in two ways: either by a general atrophy of the cell and its contents, or by the change of the latter into fluid, which gradually disappears. A full or normal fat cell has, properly speaking, no membrane, though occasionally the outer layer may have a somewhat different consistence from the interior. In atrophy a membrane occurs, but this does not prove that one normally exists.

MEETING OF THE INTERNATIONAL MEDICAL CONGRESS.

Monday's Proceedings.

At twelve o'clock on Monday, September 4th, the International Medical Congress was called to order by Prof. S. D. Gross, President of the Centennial Medical Commission, in the hall of the University of Pennsylvania. There were, at a rough estimation, four hundred and fifty gentlemen in the audience. The Right Reverend Bishop Stevens, of Pennsylvania, opened the exercises with prayer, after which Professor Gross delivered an eloquent address of welcome, which we regret we cannot give at length. We give merely an extract, in which he dwells with natural pride on the progress of the country as exemplified by such an occasion.

"In its wide range, the present congress is without a parallel. Similar bodies have repeatedly met, but none on so grand a scale or with such a cosmopolitan outlook.

"In organizing the congress the commission may have been guilty of undue partiality towards their own country. Perhaps such a tendency was, after all, only natural. However this may be, certain members felt an irresistible desire to show the world what the century since the establishment of our independence as a free and sovereign people has accomplished for scientific medicine. For this purpose, topics illustrative of the progress and present condition of the different branches of medicine in the United States have been assigned to gentlemen of acknowledged rank in the profession in different sections of the Union. These exercises will, it is believed, add greatly to the interest of the occasion. Time was when we had no medical literature, no medical science; when we were utterly helpless, and wholly dependent upon the aid derived from our European brethren, especially the English, whose language, practice, and habits we made our own. The poverty of the country in these respects cannot be better illustrated than by the fact that we had no native works on medicine and the collateral sciences until after the commencement of the present century. Many of you will recall the words of the great English lexicographer, who, in 1769, in speaking of the American colonies, exclaimed, 'Sir, they are a race of convicts, and ought to be thankful for anything we allow them short of hanging.' The Abbé Raynal, writing in the latter part of the last century, declared that America had not yet produced a single man of genius; and the exclamation of a celebrated Scotch reviewer, uttered at a more recent period, 'Who reads an American book, who goes to an American play, or who looks at an American picture?' is still fresh in the memory of many

of the present race of men. The discourses which will be delivered before you on the progress of American medicine will serve to show that the profession in the United States has earned for itself an enviable reputation, and that it is fully abreast with all the other pursuits that adorn the human mind and shed lustre upon the scientific character of the nation. They will serve to show that we have passed the period of medical provincialism, and that we stand upon a lofty platform, to which we need not be ashamed to invite the representative men of the profession of foreign countries, however illustrious, or however far advanced in the arts of civilization."

Following the address of Dr. Gross, the names of a committee of thirteen, who had been nominated by a committee appointed by the commission, were submitted to the congress for acceptance. The duties of this committee were the nomination of the officers of the congress. Nine of them were Americans, four were Europeans. Their appointment was confirmed by unanimous vote of the congress. Dr. Austin Flint, of New York, was then introduced as the reader of the address on medicine. This interesting address, of which we give an abstract elsewhere, was listened to with great attention, and, at the close, Dr. Gross made reference to the modesty which led Dr. Flint to omit all mention of his own celebrated writings. The address was then referred to the committee on publication.

The thanks of the congress were tendered Dr. Gross for his address, and a copy of it was asked for publication.

The committee on nominations next reported their choice of the following gentlemen as officers of the congress: —

President: Dr. S. D. Gross, Philadelphia.

Vice-Presidents: Dr. Paul F. Eve, Tennessee; Dr. Joliffe Tufnell, Dublin; Dr. W. L. Atlee, Philadelphia; Dr. C. Lasige, Copenhagen; Dr. J. B. Johnson, St. Louis; Dr. F. Seneleden, Vienna; Dr. Hunter McGuire, Virginia; Dr. Johan Hjort, Christiania; Dr. S. G. Richardson, New Orleans; Dr. William H. Kingston, Montreal; Dr. J. P. White, New York; Dr. H. Mujake, Japan; Prof. N. R. Smith, Baltimore; Professor Rudnen, St. Petersburg; Dr. J. M. Toner, Washington, D. C.; Professor Hueter, Griefswald; Dr. G. L. Collins, Rhode Island; Dr. R. F. Hudson, Australia; Dr. H. Gibbons, California; Dr. P. De Basieux, Belgium; Dr. N. S. Davis, Chicago; William Adams, Esq. London, Eng.; Dr. L. A. Dugas, Georgia; Professor Simpson, Edinburgh; Dr. J. K. Bartlett, Wis.

Honorary Vice-Presidents: Surgeon-General Barnes, U. S. A., Surgeon-General Beale, U. S. N.

Secretary-General: Dr. I. Minis Hays.

Assistant Secretaries: Dr. William B. Atkinson, Dr. R. J. Dunglison, Dr. R. A. Cleaman, Dr. W. W. Keen, Dr. Bertolet.

Section of Medicine: Chairman, Professor A. Stillé; Secretary, Dr. J. Ewing Mears.

Biology: Chairman, Prof. J. C. Dalton; Secretary, Dr. J. Tyson.

Surgery: Chairman, Prof. Joseph Lister; Secretary, Dr. J. H. Packard.

Dermatology and Syphilology: Chairman, Dr. J. C. White; Secretary, Dr. A. Van Harlingen.

Obstetrics: Chairman, Professor Barnes, of England; Secretary, Dr. William Goodell.

Ophthalmology: Chairman, Dr. R. Brudenell Carter; Secretary, Dr. J. Green.

Otology: Chairman, Dr. L. Turnbull; Secretary, Dr. C. H. Burnett.

Sanitary Science: Chairman, Dr. Stephen Smith; Secretary, Dr. E. M. Hunt.

Mental Diseases: Chairman, Dr. J. P. Gray; Secretary, Dr. W. Kempster.

Dr. Gross, on taking his seat, thanked the congress for the honor conferred on him, and said that nothing would be dearer to him during the remainder of his life than to have presided over their deliberations. He considered it was an honor not solely bestowed on him, but as a tribute to the profession of Philadelphia, who had been so instrumental in organizing this congress. To preside over such a body is an honor of no ordinary kind.

The meeting then adjourned to meet at ten o'clock on Tuesday.

Tuesday's Proceedings.

The International Medical Congress reassembled at ten o'clock Tuesday morning in the chapel of the University of Pennsylvania, West Philadelphia, Dr. S. D. Gross, president, in the chair.

Dr. I. Minis Hays announced that up to three o'clock, Monday, the names of about three hundred delegates were registered.

Next in order came the reports from sections, which were read.

Dr. T. G. Richardson, of New Orleans, moved that the congress be not held responsible for the reports of the sections, and Dr. Nathan S. Davis, of Chicago, moved that the reports be merely accepted and referred for publication. Both motions were agreed to.

Congratulatory letters from foreign societies were then read, after which were read invitations to delegates to visit the university buildings, the new hospital of Jefferson College, the College of Physicians, and the Academy of Natural Sciences. It was then announced that Room 4, in Judges' Hall, Centennial grounds, had been reserved for the use of delegates.

Dr. Austin Flint, of New York, offered a preamble and the following resolutions, which were adopted: —

Resolved, First. That the members of this International Medical Congress regard with great interest the contribution of a national medical library in the city of Washington, and respectfully petition the Congress of the United States to provide for additions to the number of volumes and periodical publications until the library is made as complete as possible.

Second. That in view of the necessity of what is known as a *Catalogue raisonné* in order to render the library properly available for reference, this International Medical Congress urge the importance of an early completion and publication of such a catalogue.

Third. That the specimen fasciculus of the catalogue, which is stated to be nearly ready for the press, affords evidence of great labor and care, and the arrangements for convenience of reference, it is believed, will prove in all respects satisfactory.

Fourth. That those of the delegates to this International Medical Congress who are citizens of the United States, and other members of the medical profession in this country, are urged individually to exert their influence to secure the enlargement of the library and the speedy publication of the catalogue.

The committee on nominations presented the following additional report, which was adopted: —

Committee on Publication (with power to choose its chairman and an editor): Dr. J. Ashhurst, Jr., Dr. R. J. Dunglison, Dr. William Goodell, Dr. J. H. Hutchison, Dr. Caspar Wister.

Treasurer: Dr. Caspar Wister.

Vice-Presidents of the Sections: Medicine: Dr. R. P. Howard, Canada; Dr. J. J. Woodward, U. S. A.

Biology: Dr. A. Flint, Jr., New York; Dr. F. W. Campbell, Canada.

Surgery: Dr. J. A. Grant, Canada; Dr. J. Ashhurst, Jr., Philadelphia.

Dermatology and Syphilology: Dr. S. Englestet, Copenhagen; Dr. E. Shippen, U. S. N.

Obstetrics: Dr. A. Simpson, Edinburgh; Dr. W. H. Byford, Illinois.

Ophthalmology: Dr. William Thomson, Philadelphia; Dr. W. H. Williams, Texas.

Otology: Dr. A. Buck, New York; Dr. C. J. Blake, Boston.

Sanitary Science: Dr. J. S. Billings, U. S. A.; Dr. H. B. Baker, Michigan.

Mental Diseases: Dr. J. Ray, Philadelphia; Dr. E. Grissom, New Orleans.

Dr. Bowditch delivered an address on hygiene, an abstract of which we print at the beginning of this number.

The sections met at three P. M. In the Section on Surgery Prof. John F. Hodgen, of St. Louis, read a paper on Antiseptic Surgery. He defined septicæmia, and referred to the views of Rindfleisch, Tyndall, and Pasteur. Tyndall concludes that bacteria are irregularly diffused through the air; hence the difference in hospital experience in various sections. In some there is more septicæmia, in others less. In septicæmia the blood contains elements of putrefaction, and the purulent or putrescent elements are derived from fluids. Absorption, as asserted by Billroth, takes place most readily in the early stages of inflammation and in recent wounds. Diseased skin and wounded surfaces take up these matters readily, yet the latter do not pass through healthy granulations. This has been proved by experiment. Putrid pus is found in abscesses in many parts of the body. A destructive inflammation may originate in these collections, the surrounding walls of the cavities may melt away, and septicæmia, following a large flow of putrid pus, is probably due to fresh inflammation in the walls of the abscess or cavity. Debility, fatigue, and the like, induce these changes.

Animals fed on sulphites are not so liable to septicæmia as animals otherwise fed. Any substance that arrests putrefaction is antiseptic. Cotton as dressing is not reliable, because we cannot be sure that it is free from bacteria. Heating the wool or diffusing gases through it (Lister's method) may free it from germs. Charcoal, clay, chalk, Peruvian bark, and pulverized madder-root are all useful, but not absolutely sure. Caustics destroy the living organisms

upon which putrefaction depends. Currents of dry air, by desiccating the fluid from wounds, prevent absorption of putrefying matter. Practice is infinite in variety. One practices isolation; another, ventilation; another watches over the wound; another seals the absorbing surface. One leaves wounds open; another washes and scrubs; another plasters and daubs. All this shows, at any rate, the necessity of great care in protecting wounds. We see, too, the hopelessness of preventing the entrance of bacteria by plasters, powders, or fluids. If we can keep septic matters within bounds we prevent septicæmia. We see this in washing out wounds or inflamed uteri.

The antiseptic ligature cannot be ignored. It becomes absorbed and organized. Lister says that we really surround vessels with living animal tissue. Epithelial cells, as is well known, after removal from their place of origin, can proliferate. Why, then, cannot animal ligatures revive and become organized when around vessels?

Dr. Paul F. Eve uses the tendons of the deer. They become absorbed.

The entrance of septic germs may be prevented, but only for a time. Actual prevention requires such exact care as will be seldom seen. Practically the conditions to be met are so difficult as to make us nearly powerless. Germs having been found under dressings so ingenious as those of Lister, it shows how nearly impossible it is to prevent their contact with wounds.

Professional experience teaches us that, as Billroth asserts, absorption by granulating surfaces does not take place rapidly enough to cause septicæmia. It takes place *before* granulation begins.

Drainage tubes, water baths, and other rapid means of cleansing wounds will prevent absorption.

The paper being concluded, Dr. Hewson, of Philadelphia, related his experience with various dressings, finally adverting to the earth treatment, with which he has been very successful. He thinks water dressings and douchings convey germs, and agrees with an English author who says that all fluids as dressings are bad for this reason. For ten years he has not used ligatures, but acupressure and torsion, and thus one source of putrescence is avoided. Dr. Hewson now removes dressings as infrequently as possible, covering wounds with blue paper, which, he thinks, excludes rays of light. During the past few months he has used salicylic acid, but has not allowed wounds to be washed nor dressing to be disturbed when not soaked by the discharges. At present he finds nothing so satisfactory as salicylic acid. He finds, too, that it relieves pain.

The great event of the day was the discourse by Professor Lister in the discussion that followed this paper. He spoke for three hours, during which he received the most unwavering attention. He first referred to the great trouble which attends a perfect use of the antiseptic method. He acknowledged the wearying care attendant upon its use, but expressed his honest belief that there did not exist a medical man who would not be faithful in carrying out any form of treatment which promised to help a patient. He described an operation by which he recently cut out large wedge-shaped pieces from the two femurs of a cripple in order to straighten his limbs. To do this without strict antiseptic treatment would make success impossible.

Referring to wounds on the head, he said that to remove dressings after days in which they were left untouched, and to find no pus, but fresh cicatrices, was a new era in surgery. This cannot be done without antiseptic treatment. To open the spine, remove carious bone, and restore the patient to health cannot be done without strict antiseptic treatment. To open an acute abscess, press out the last drop of pus, and see no more form can only be accomplished by the antiseptic method. Unless we use this method we cannot safely tie large arteries without deep-seated suppuration. "Indeed," said he, "I should be exceedingly sorry to apply any ligature without strict antiseptic treatment. We need have no hesitation in expressing the belief that although we may have good healing without antiseptic treatment, we cannot thus secure the best results. Antiseptic surgery is dealing with surgical cases in such manner as to prevent putrefaction. When I read Pasteur's original paper I said to myself, 'Just as we may destroy lice in the head of a child who has pediculi, by poisonous applications which will not injure the scalp, so, I believe, we can use poisons on wounds to destroy bacteria without injuring the soft tissues of the patient.' Putrefaction may be caused by an individual himself, because of his feeble condition. In simple fractures, even, we have a serious wound. If we could only see it we should say, 'Here is dead tissue. It must be poulticed to help its removal.' I say in simple fractures are injuries of all degrees.

"If injury follows the opening of an abscess, it is not due to the admission of matter from without, but to the effect upon the pyogenic membrane, which gives it power to absorb, as it did not when intact. So says Billroth. But we did not need to have Billroth tell us that granulations do not absorb, and that putrescent absorption occurs before granulation. I said this in works of mine years ago. We all know how when water dressings are removed from granulating surfaces, the whole ward will stink, and yet the granulations do not absorb. We knew this long before Billroth wrote. The cause of the mischief in the free opening of abcesses without the antiseptic treatment is that the pyogenic membrane is not in a condition of granulation. But in acute abscesses we have a granulating surface, just as we have in recent wounds. It is not so in chronic abscesses. Many abscesses do not form pus at all until they are opened. They are not then in a condition of granulation, but in consequence of their chronicity they can absorb. Granulations covered by epithelium develop in proportion to the amount of epithelium. In pyogenic membranes the surface will absorb in proportion as it resembles a sore with the granulations stripped off. I have seen a patient die within twenty-four hours, and before the membrane had had time to granulate, by absorption of putrescent matter, and although the fluid discharge was clear and not yet pus, it stunk."

Professor Lister then showed his common and most reliable dressing. He uses carbolic acid, but insists that it be perfectly pure. That which makes carbolic acid unpleasant to the smell is cresyllic acid. "If a solution of acid and water be not clear, the cloud is caused by insoluble carbolic acid, and this portion will irritate the hands if rubbed upon them. But a perfectly pure solution will not do this. Carbolic acid has the property of penetrating

through many, even oily, substances and will cleanse more perfectly than anything else I know." Lister likes salicylic acid, but prefers carbolic because more volatile and hence more searching. He then showed his ingenious spray producer, which is so arranged that the spray can be directed at any angle upon a wound without the need of an assistant. He begins his dressing by first requesting his patient to cleanse the injured part by washing. He used to excise the carpus. Now he does not like the operation. In case of injury in which there is great mobility of the wrist, he makes two or more free incisions into the joint, keeps the wound open, and uses a drainage tube, with good results. The finger-nails should always be cleaned before the hand or finger is introduced into the body. Nothing of this sort should be neglected. Be sure not to introduce anything into the wound not cleansed by the carbolic acid lotion of one part of acid to twenty of water.

Lister uses a coarse netting dressed with a mixture of carbolic acid one part to resin five parts. He first lays upon the wound a piece of oil silk well varnished with copal varnish and wet in the carbolic-acid lotion. He does not use this in opening abscesses, because he does not wish them to heal. If the gauze went first upon the wound it would irritate and cause a flow of pus, but if the oil silk be first laid on we may leave the dressing for a week. The trouble is great, but it pays. If during an operation an instrument be laid on the table it should not be again used until it has been dipped into the carbolic-acid lotion. Those who use the method do this instinctively. The gauze is next laid on, first being dipped into the carbolic-acid lotion. The remainder of the dressing, already prepared of layers of calico, oil silk, and wadding, must not be laid on without first protecting it by gauze dipped into the lotion, because, having been lying upon the table, it may be covered with germs. All this is done under a cloud of spray, and when the dressing is changed it must be done under the spray, and one must see that this plays between the dressing and the skin of the patient. The whole is bound on by a roller of silk gauze moistened in the solution.

Lister then at great length explained his own experiments and those of others with milk, water, urine, and other fluids, variously protected from bacteria by covers, or by boiling, and he showed how germs may find entrance into fluids, and how these fluids may be protected from them. In regard to bacteria found in freshly voided urine, he said he believed that a healthy mucous membrane in the urethra prevents the development of bacteria. In lesions of the membrane, if it be washed by a solution of water and carbolic acid, and the penis be washed in the solution and a cap soaked in the solution be put on, the urine will not change in any respect. He then described his catgut ligature and his method of preparing it. He at first tried chromic acid, but that substance made the ligature too hard. He then tried glycerine, chromic acid, and water; next, chromic acid and carbolic acid; now he uses chromic acid, glycerine, water, and spirits of wine.

Professor Gross then said that for years he has prevented irritative fever in patients who had chronic abscesses, without the antiseptic method, by putting them at once under the influence of anodynes and keeping them thus for several days.

In reply to a question as to the use of the antiseptic treatment on abdominal lesions, Lister mentioned a case in which the bowel protruded and lay outside the cavity for half an hour, covered with a cloth dipped in the carbolic-acid solution. The bowel was returned and there was not the slightest disturbance of the peritoneum. All operations are done under spray. He himself never did ovariotomy because there was an ovariotomist in his hospital, but all of his six colleagues, with one exception, employed the antiseptic treatment as carefully as he himself, and their success is in proportion to the amount of care they use. Lister said many other things of interest, but lack of space will not admit them here. He spoke three hours and kept the attention of his audience to the end. He explained away the report that bacteria had been seen under his dressings, by saying that the report was started by Ranke, Volkmann's assistant in Halle, who thought he had discovered bacteria, but, when Ranke came to Edinburgh, Lister showed him that these supposed bacteria were only a microscopical illusion, a false impression caused by a movement of the fluid in the field of the microscope, which movement was communicated to particles of inanimate matter which resembled bacteria. Ranke confessed his error.

In the Section on Medicine, Dr. J. J. Woodward read his paper on typho-malarial fever, and answered the question, "Is it a special type of fever?" in the negative. Curves which he has constructed show that this form of fever occurs most intensely in autumn. Some sections, as New England, New York, West Virginia, and others are free from this fever, but it prevails in the Southern States and on the Atlantic coast, increasing as we go south. Throughout all the great regions occupied by our armies in the late war, these fevers prevailed with excessive force; disordered livers and big spleens were abundant.

Typhoid fever is more frequent in the North than at the South, but exists everywhere. It decreases as we go south, but areas occur in which it is prevalent. Liebermeister compared the statistics of typhoid fever and found it generally autumnal, except in Milan. Dr. Woodward thinks that Liebermeister's curves represent the annual course of typhoid in America, and has addressed the question to secretaries of boards of health all over the country, but has not yet had time to analyze their replies. He thinks that typhoid rages most from September to November. In numerous districts of America intermittent and remittent fevers once prevailed. The intermittent fevers decreased, and remittent took more and more frequently the form of typhoid fever. When the periodical fevers form epidemics, the typhoid retires until they disappear.

The supposition that diseases can exist only as entities is dead. The typhoid and intermittent do exist as hybrids. This was appreciated by Dickson and Drake. Dr. Woodward does not mean that typho-malarial fever is a type, but a condition, due to exposure to elements which cause intermittent and typhoid fevers. In groups of cases in which the malarial element at first predominated, but after a week typhoid and continued symptoms set in, some symptoms failed, as rose spots and diarrhœa, but other symptoms were present. Many cases ended favorably because, Dr. Woodward thought, of the free use of quinine. Fatal cases showed, at autopsy, only sharp catarrh of the

bowels, but sometimes the glands of Peyer were swollen and pigmented, or the surrounding mucous membrane was pigmented. In others the spleen and liver were enlarged, and a diphtheritic condition of the mucous membrane of the bowels was found. In fact, every variety of difference between typhoid and intermittent existed. Dr. Woodward could not and would not attempt to draw the line. In a second class of cases, typhoid predominated. They were clinically more like typhoid, but there was an unwonted tendency to intermissions and periodicity. There were also gastric disturbances and ague spasms. But after death these cases showed only typhoid conditions. The spleen was much enlarged in many cases. Uncomplicated typhoid was not the prevailing form, whatever may have been said.

Dr. Woodward sees in periodicity an additional reason for the great mortality in our army. A scorbutic taint was also wide-spread and must have influenced the general condition of fever patients, increasing their tendency to mental and bodily debility. In fatal cases Peyer's patches were in the form of black sloughs, evidently modified by the scorbutic element.

"Is typho-malarial fever a special type of fever?" Dr. Woodward's opinion is that it is not, but only a hybrid of old and well-known conditions. The essential point is the recognition of hybrid or complicated forms of typhoid and malarial fevers. The scorbutic element was only the accident of our war. Dr. Woodward still believes that simple typhoid and simple remittent did occur, but to what extent has not been tabulated.

He closed his paper by quoting leading men who accept his theories.

In the Section on Medicine the afternoon was mainly occupied in discussing the question as to the duality or unity of croup and diphtheria. The majority were decided disciples of the dual theory.

The paper on Medical Teaching, by Professor Reid, of Halifax, advocated the greatest simplicity in teaching, in the use and number of terms. The paper, though clear in matter and good in quality, was so elementary in character that it was voted that it should not be reported to the general meeting.

In the Section on Obstetrics the papers for the day were read and warmly received. An extra paper on Dressing of the Pedicle in Ovariotomy was also read, and gave rise to the usual long discussion.

In the Section on Dermatology the question, "Are eczema and psoriasis local or constitutional manifestations?" was discussed in the paper read by Dr. Bulkley. The unanimous decision was in favor of the constitutional character of these affections.

Your reporter failed to hear the probably interesting paper on the Excretory Functions of the Liver, read by Dr. Austin Flint, Jr., before the Section on Biology.

This section listened to Professor Johnston's paper on Microscopy of the Blood. It was stated during the reading of the paper that there are two varieties of fish which have circular red blood corpuscles.

The discussion which followed settled into consideration of the old question concerning the ability of microscopical experts to distinguish the blood corpuscles of man from those of animals. The ground taken by Dr. Richardson is that if the question be narrowed down to whether this blood be that of man

or of sheep, the microscope will reveal the difference without failure. Nothing new was developed by the discussion.

The Obstetric Section listened to Dr. Byford's paper on Uterine Hæmorrhage. The remaining sections were but poorly attended.

Monday evening, the physicians of Philadelphia gave the delegates a reception at Judges' Hall in the Centennial grounds.

The two receptions given by Drs. Thomson and Wilson were fully attended and very elegant in character.

Wednesday's Proceedings.

The International Medical Congress reassembled this morning at ten o'clock, in the chapel of the University of Pennsylvania, West Philadelphia, Dr. S. D. Gross in the chair.

Dr. John L. Atlee moved that the secretary or the publishing committee be requested to send to the governor of each State and Territory, and to each Province in Canada, a copy of the address of Dr. Bowditch. Adopted.

Dr. I. Minis Hays reported that the names of over four hundred delegates had been registered.

The National Temperance Society here presented a request, which was quietly and unanimously tabled.

Dr. Seguin, of New York, addressed the congress, after which the following was adopted: —

"The International Medical Congress of 1876 recognizes the advantages which would accrue from the introduction of a gradual uniformity in the multiple and heterogeneous elements of physic, as posology, nomenclatures, etc., and in the means and records of medical observation.

"In consequence, the congress appoints three delegates to the International Congress of 1877, to meet at Geneva, Switzerland, with the special duty of presenting a schedule of the means of uniformity in physic actually applicable in all countries, and another of those which could soon be made acceptable by the profession at large. Said delegates to be advised to invite the coöperation of the men who have already worked for the same cause at the International or National Medical or Pharmaceutical Congresses of Paris, Vienna, St. Petersburg, Brussels, and Buffalo."

Reports from the different sections were then presented.

The Section on Mental Diseases reported on the question of Responsibility of the Insane for Criminal Acts as follows: *Resolved*, "That there is at present manifested a tendency to hold the insane responsible for the commission of acts. That this tendency is unjust, unphilosophical, and contrary to the teaching of pathology, which clearly points out that insanity is the expression of disease."

The Section on Sanitary Science reported on the paper on Hospital Construction and Ventilation read by Prof. Stephen Smith, of New York, as follows: "*Resolved*, That the report of Dr. Smith be recommended to the congress for publication. While the section does not pass judgment as to the conclusions of the report, the paper contains much of an interesting and historical character."

The Section on Otology, on the question, "What is the best mode of uniform measurement of hearing?" reported by Dr. Charles H. Burnett, concludes that "the preference should be given to the voice over the watch and tuning-fork, and recommends a series of test words."

The Section on Biology, in reference to the paper by Prof. Austin Flint, Jr., on Excretory Functions of the Liver, reported Dr. Flint's conclusions as follows:

(1.) Cholesterine exists in health in the bile, the blood, and nervous matter, also in the crystalline lens, in the spleen and in meconium.

(2.) Cholesterine is found for the most part in nervous matter, from which it is passed into the blood. The blood gains cholesterine in its passage through the brain. Its formation is constant, and it is always found in the blood.

(3.) Cholesterine is separated from the blood by the liver and is discharged with the bile. It preëxists in the blood, serves there no useful purpose, and if it is allowed to accumulate, blood poisoning results.

(4.) The bile has two separate and distinct functions, to which the so-called biliary salts, glycocholate and taurocholate of soda, contribute; these do not exist preformed in the blood, but are the products of secretion. The second function of the bile is excretion with depuration, this being accompanied by removal of cholesterine, which it obtains from the blood.

(5.) Normal fæces do not contain cholesterine. The latter substance is represented by stercorine, formerly called seroline, into which it becomes converted in its passage down the intestine. The conversion of cholesterine into stercorine does not, however, take place when digestion is arrested or when it is not necessary, as is shown by the presence of cholesterine in its own form in the fæces during fasting, and in the meconium.

(6.) The difference between the two varieties of jaundice — one mild, the other severe — is dependent upon obstruction of the bile ducts in the one instance, with reabsorption of biliary coloring matter, while in the other there is retention of cholesterine in the blood, in consequence of destruction of the parenchyma of the liver.

(7.) That condition of the blood dependent upon the presence of cholesterine in the blood I call *cholesteræmia*. It is characterized by symptoms referable to the brain, and may or may not be attended with jaundice.

(8.) Cholesteræmia does not occur in every disorder of the liver, because even when a part of the organ is disordered, there may remain a portion still capable of performing the function of excreting cholesterine.

(9.) In case of simple jaundice, even where fæces are decolorized, there is an accumulation of cholesterine in the blood.

(10.) Cholesterine bears the same relations to the liver as urea does to the kidney.

The question as to whether eczema and psoriasis are local or constitutional was decided by the Section on Dermatology in favor of the constitutional character of these lesions.

The remaining sections did not report.

The address on Surgery was then read by Prof. Paul F. Eve, of the University of Nashville.

It is not easy to make an abstract of a paper which was almost purely encyclopædic in character.

Dr. Eve first referred to the condition in which America was left by the war for independence. Our surgeons had no name abroad. Even Physick, the "Father of American Surgery," was not admitted as house surgeon to a London hospital. But fifty years later a French surgeon said to an American student, "You ought to be proud of America, for she holds the sceptre of surgery." An historical sketch of Physick then followed, including notice of his invention of the seton, and forceps; his adoption of animal ligature, buckskin being preferred; his invention of the tonsillotome; his operations for stone; his paper on Cystic and Sacculated Rectum. His nephew published a work on surgery which embodied Physick's views. This work became a text-book in Edinburgh. Intimately connected with the rise of surgery were four other surgeons: Warren, Mott, Dudley, and Gibson.

There were three distinguished Warrens: Joseph, the martyr of the Revolution; John Warren, who gave the first course of lectures on Dissection, and thus probably inaugurated the medical department of Harvard University. J. Collins Warren succeeded his father in 1815. He contributed greatly to medical literature, his work on Tumors being published in his seventy-seventh year. He was the first surgeon who operated under ether. J. Mason Warren has also left a brilliant record.

Mott was then mentioned. He was the first to tie the common iliac; he tied the common carotid fifty-one times; amputated more than one thousand limbs; no surgeon ever tied so many arteries with such safety as he. Astley Cooper allowed that Mott had performed more operations than any surgeon who had ever lived. He probably never had a superior as an operator. Dudley graduated in Philadelphia in 1806. His theory was that if the chylo-poietic viscera were properly cared for, the rest of the body would take care of itself. He took advantage of nature and rest. He originated the medical department of the Transylvania University, Lexington, Ky. He claims the first cure of aneurism by tying the common carotid. He was known as the lithotomist of the West. He cut for stone two hundred and twenty-five times and lost only six patients.

Gibson, of Baltimore, was probably the best lecturer who ever lived in America. He was the first to tie the iliac in gunshot wound; he twice performed Cæsarean section, in both cases saving mother and child.

Dr. Warren Stone, of New Orleans, was the first to ligate a human artery with wire.

An American surgeon was the first to cure popliteal aneurism by pressure.

This paper was eloquent and interesting, but was a closely-written sketch of the men who made American surgery, and cannot be fairly reproduced in a limited space.

Dr. J. M. Toner's paper was then read, his subject being Medical Biography. He said, "Gentlemen of the Centennial International Medical Congress, I appear before you to discharge the duty assigned me of preparing a biographical retrospect of the medical profession of the United States during the centennial period just passed. Though apparently an easy task, I cannot ap-

proach it without hesitation, apart from the feelings of diffidence which under any circumstance this occasion and this audience must inspire.

"In glancing over the period to be embraced in this retrospect I am struck by the paucity of really striking events which influenced the practice of medicine, which have left special marks at the end of the first century of our national existence. Wars have generally been promotive of medical science, and our profession was no doubt much benefited by the contest for independence.

"For the first quarter of a century after this armed struggle, the leading physicians and surgeons were those who had served in the army. The most notable event of this period was the occurrence of an epidemic yellow fever, which appeared in the summers of 1793 and 1798 in nearly all our Atlantic cities. This disease tested the courage and taxed the energies and best skill of the profession, and prompted the more eminent to reduce their observations to writing, and to have them published either in defense of their practice or for the laudable purpose of making contributions to medical science.

"The second quarter of the centennial period was distinguished by the introduction of vaccination, the occurrence of spotted fever, and the war of 1812.

"All of these were events which stimulated the profession to more extended studies, and became incentives to authorship; this was especially true of the disease known as spotted fever.

"The war of 1812 proved to be another great school of experience, although it was not fruitful in medical reports or publications. The aspiration which it aroused, however, in the profession, gave an impetus to the establishment of medical periodicals and the founding of medical colleges and hospitals.

"In following out the plan of dividing the century into quarters, the third may be marked as noted for the discovery of anæsthesia, the epidemic of Asiatic cholera of 1832 and 1848, and the war with Mexico, as well as the discovery and the application of many new and improved methods of physical exploration in the search for disease.

"The last quarter, which has just closed, is specially distinguished by the vast experience of the late war, which was a great school, and which has benefited the medical profession of the whole country; the extended use of anæsthesia in painful surgical operations, the increase of scientific means for exact diagnosis, the introduction of new and potent remedies and modes of administration, and the founding of hospitals and medical colleges in nearly all the large cities."

In the more strictly biographical part of the address he alluded especially to Drs. Benjamin Rush, Philip Sing Physick, Daniel Drake, John and John Collins Warren, Nathan Smith, Reuben D. Mussey, James Jackson, Nathaniel Chapman, Elisha Barton, John K. Mitchell, and John Morgan.

In the Section on Surgery, Professor Van Buren's paper should have been read in the order of the programme, but Prof. Lewis B. Sayre first read his paper on Coxalgia. Since Dr. Sayre had arranged to make a practical display of his method of treating this disease at the Philadelphia Hospital, he omitted much of the general detail of the subject. He drew the following conclusions: —

(1.) That morbus coxarius is a disease peculiar to early childhood, or the age of reckless indifference.

(2.) That it is almost always of traumatic origin, and not necessarily connected with vitiated constitution.

(3.) That *rest* and freedom from pressure of *the parts* involved, while at the same time the rest of the body is allowed free exercise in the open air, and a nutritious diet, is the best treatment that has yet been devised for this disease.

(5.) That if this plan of treatment is adopted in the early stages of this disease, the majority of cases will recover with nearly, if not quite, perfect motion and without deformity.

(5.) That in the advanced *second* stage of the disease, when absorption cannot be produced, it is better to puncture or aspirate the joint and remove its contents than to leave it to rupture by ulceration.

(6.) That in the third stage of the disease, when the treatment recommended in this paper has been properly applied without satisfactory improvement, but progressive caries continues, then *exsection* of the diseased bones is not only justifiable but absolutely necessary.

(7.) That the operation of exsection of the hip is easily performed and attended with no danger.

(8.) That after exsection of the hip-joint in cases of caries the recovery is much more rapid and certain, and infinitely more perfect as to form, motion, and the usefulness of the joint and limb, than when left to the slow process of nature's exfoliation.

Dr. C. H. Mastin, the reporter on the Causes and Geographical Distribution of Calculous Disease, was unable to be present. His paper was read by Dr. H. Lenox Hodge. Dr. Mastin states that —

The *probable* causes at work in the formation of calculous affections are: —

(1.) Hereditary influences, which control a diathesis.

(2.) Digestive troubles, induced by an excess or deficiency of proper diet.

(3.) Sedentary life, with indulgence in stimulating food, by which healthy nutrition and assimilation are altered to mal-assimilation and mal-excretion.

(4.) Climatic changes, deficiency of clothing for the proper protection of the body, and an arrest of the healthy function of the dermoid tissue.

(5.) Want of harmony between the great secreting and excreting organs of the system, — the liver, skin, and kidneys, — with catarrhal affections of the uro-poietic viscera favoring the formation of a colloid medium.

(6.) Injuries of the spinal cord, from which a proper nervous influence over the mucous membrane of the urinary organs is lost; foreign bodies introduced into the bladder, producing cystitis, with its consequent muco-purulent discharge, from which the phosphates are precipitated.

In the section relating to hereditary influences he takes the ground that gout and calculus are nearly akin, one being the result of an excess of urate of soda in the system, the other dependent upon an undue proportion of uric acid; he tries to prove that they are two different phenomena springing from one and the same root, and that consequently the causes which produce the one must influence the other.

Owing to want of time he was unable to enter into an extended review of

the geographical distribution of calculous affections, and hence confined his remarks on this point to calculus in America.

The paper on the Medical and Surgical Treatment of Aneurism, by Prof. William H. Van Buren, of New York, was a very valuable compilation. The subsequent discussion was shared by Professor Lister and Prof. Joliffe Tufnell. The latter illustrated his remarks by means of photographs and prepared specimens. Rest was the treatment he especially advocated. In regard to aneurism, Lister remarked that the question was not so much as to whether an aneurism were idiopathic or traumatic, but as to the amount of danger involved in surgical interference. If an aneurism were traumatic we at once cut down upon it and ligate the artery, knowing that no matter where we ligate the vessel will be healthy. On the contrary, in idiopathic aneurisms we may have an artery which will not bear a ligature until we have dissected far up or down its continuity. In these cases it is almost as well to do the old operation at once.

Lister said he thought the old tourniquet much safer than is commonly supposed. He believes that when it produces ill effects it has not been rightly adjusted, or it has been left in the hands of unqualified assistants. Symes had only one death in forty cases, and this because he used compression. Lister then described his treatment of nævæ, by strangulation, the only modification being the use of carbolized catgut ligature.

Dr. John Ashhurst, of Philadelphia, then said that in regard to the abdominal compression, Professor Pancoast had not claimed the credit which belonged to him. He was too busy a man to publish all he did. "But," said Dr. Ashhurst, "Professor Pancoast invented a compressor which antedated Lister's instrument about two years," although it was acknowledged that Professor Lister's compressor was more perfect. Dr. Ashhurst felt that as an American he ought to claim thus much credit for a native surgeon.

Professor Joliffe Tufnell then informed the section that in 1835 LeStrange, of Dublin, left his collection of surgical instruments to two colleges in that city, and that among them was a compressor, invented by LeStrange, proving that there is almost literally nothing new under the sun. But it was felt by some that Tufnell was not quite fair in this allusion to LeStrange's instrument, for *it* was a simple abdominal compressor, used only in treatment of aneurism, whereas Pancoast's compressor was invented and used entirely for the purpose of checking and controlling hæmorrhage during operations at the hip-joint, so that a comparison of two similar instruments which were invented for entirely different uses should not have been made.

It was then announced that Professor Estlander, of Finland, would read, on the following day, a paper on Osteo-Sarcoma, and another on Vesicle Disease in Finland.

In reply to a question concerning his statement that animal ligatures became reorganized, Lister said, "I do not claim that the ligature comes to life again, but that it disappears particle by particle, the place of each decaying particle being filled by a new one, just as in rebuilding a wall we might put a new brick in the place of an old one."

(*To be concluded.*)

THE INTERNATIONAL MEDICAL CONGRESS.

Of the many striking events in the celebration of this year none is so interesting to the profession or has been crowned with such uniform success as the congress which met last week at Philadelphia. We have neither time nor opportunity to discuss details, for all our available space has been devoted to our report of the proceedings, which we offer to our readers at this early date. Its preparation has involved great exertion, which we trust our readers will appreciate. In our next number we shall continue the report, and we hope then to be able to discuss some of the leading features of the assembly. Everything that has as yet reached us deserves the highest praise. The addresses have been worthy of their distinguished authors, and the papers and discussions have enriched science. The tone of the meetings has been scholarly and dignified. We feel that the physicians who designed it may well be proud of their celebration of our national anniversary.

COMPARATIVE MORTALITY-RATES FOR THE WEEK ENDING SEPTEMBER 2, 1876.

	Estimated Population, July 1, 1876.	Total Mortality for the Week.	Annual Death-Rate per 1000 for the Week.	Death-Rate for the Year 1875.
New York	1,061.244	610	29.89	29.35
Philadelphia	825,594	345	21.73	22.24
Brooklyn .	506,233	220	22.59	24.92
Chicago . .	420,000	226	27.96	19.75
Boston . .	352,758	167	24.62	26.20
Providence	101,500	45	23.05	19.02
Worcester .	51,087	30	30.51	20.91
Lowell . .	51,639	29	29.14	20 55
Cambridge	49.670	17	17.79	23.31
Fall River	50,372	38	39.22	23.99
Lawrence .	36,240	16	22.96	25.96
Lynn . .	33,548	21	32.55	19.23
Springfield	32,000	11	17.87	20.93
Salem . .	26,344	17	33.55	22.92

Normal Death-Rate, 17 per 1000.

Books and Pamphlets Received. — The Treatment of Anteflexions of the Uterus. By Ely Van de Warker, M. D. (Reprinted from the New York Medical Journal, June, 1876.) New York.

The Collateral Circulation in Aneurism. Report on the Successful Ligations of the Innominate, the Common Carotid, the Vertebral, and the Internal Mammary Arteries, in a Case of Right Subclavian Aneurism. By A. W. Smith, M. D., House Surgeon, Charity Hospital, New Orleans. 1876.

Diseases of the Bladder, Prostate Gland, and Urethra. By Frederick James Gant, F. R. C. S., Surgeon to the Royal Free Hospital. 1876.

Clinical Studies of Diseases in Children. By Eustace Smith, M. D. Lond. 1876.

All the above published by Lindsay and Blakiston, Philadelphia.

Transactions of the Medical Association of the State of Alabama. A State Board of Health. Twenty-Ninth Session, 1876. Montgomery. 1876.

The Fourth Annual Meeting of the Public Health Association will be held at Boston, from the 3d to the 6th of October, at the Institute of Technology. Many valuable papers are promised.